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## REMARKS

Upon review of the subject application, Applicants discovered errors in the specification and/or claims which are corrected by this Amendment. Applicants submit that the above amendments are simply the correction of grammatical errors or the clarification of terminology. Applicants believe that no new matter is added to the application nor is the scope of the claimed invention affected.

Furthermore, Applicants believe the amendments made herein are not substantive changes nor do they require any additional work on the part of the Office. Therefore, entry of this Amendment is respectfully requested.

Should the Examiner have any questions or comments regarding these amendments, the Examiner is cordially invited to telephone the undersigned at the number provided below.

Respectfully submitted,

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## APPENDIX A

[1011] The data services are provided to a subscriber station on a Forward Packet Data Channel (F-PDCH), which is shared by packet data users based on time multiplexing. The F-PDCH is composed of a number of code-division-multiplexed Walsh sub-channels. The number of sub-channels varies in time depending on the demands of the circuit-switched voice and data users. The F-PDCH structure is illustrated in FIG. 3. The information bit stream 302 to be transmitted is segmented into packets of several sizes. A 16-bit cyclic redundancy check (CRC) is added to each packet in block [302] 304, and 6-bit turbo encoder tail allowance is added in block 306 yielding an encoder packet. In one embodiment, the encoder packets are of sizes 384 bits, 768 bits, 1,536 bits, 2,304 bits, 3,072 bits, and 3,840 bits. The encoder packets are encoded by block 308. Each encoded packet is then scrambled in blocks 310 by a scrambling pattern generated by block 312 and interleaved by block 314. Some or all of the interleaved symbols are then selected to form sub-packets in block 316. Depending on the length of the sub-packet, the sub-packet comprises 1, 2, 4, or 8 slots. In one embodiment, the slot is 1.25 ms long. The sub-packet are QPSK, 8-PSK, or 16-QAM modulated by block 318 and demultiplexed into a variable number of pairs (In-phase and Quadrature) of parallel streams by block 320. Each of the parallel streams is covered with a distinct 32-ary Walsh function by blocks 322(i). The Walsh-coded symbols of all the streams are summed together to form a single In-phase stream and a single Quadrature stream by block 324. The In-phase stream and the Quadrature streams are provided to a block 326, which adjusts the channel's gain. Several forward link channels, both data and voice are then summed in block 328, quadrature spread in block 330, and the resultant In-phase and Quadrature streams are baseband filtered in block 332(i), upconverted in blocks 334(i) and summed in block 336.

[1052] In accordance with another embodiment, illustrated in FIG. 5, the slot(s) 502(i) of the sub-packet 500 contain data for several subscriber stations. Data from all the slots 502(i) of the sub-packet 500 for a particular mobile are sent using one or more of the available Walsh channels. As illustrated in FIG. 5, slots [402(1)-402(n)] 502(1)-502(n) contain data encoded by Walsh codes 504(1)-504(m), therefore, carry data for *m* subscriber stations. Consequently, the number of subscriber stations receiving information concurrently may be changed on a sub-packet to sub-packet basis.

[1057] Each of the CDM channels 608(i) comprises information enabling the subscriber station to determine which of the CDM channels 608(i) is intended for the subscriber station and information enabling the subscriber station to demodulate the F-PDCH. The information enabling the subscriber station to determine which of the CDM channels 608(i) is intended for the subscriber station comprises a MAC ID 610(i). The information enabling the subscriber station to demodulate the F-PDCH comprises an ARQ ID 612(i), a sub-packet ID [616(i)] 614(i), a packet size [618(i)] 616(i), and a number of Walsh channels used [620(i)] 618(i). In one embodiment, the current F-PDCCCH coding and modulation is used for each of the CDM channels 608(i). During the post processing, each of the subscriber stations demodulates the MAC ID 610(i) of a CDM channel 608(i). If the MAC ID 610(i) indicates that the CDM channel 608(i) does not contain information for the subscriber station, the subscriber station ceases further post processing of the channel and repeats the procedure for the next CDM channel 608(i+1). If a subscriber demodulates a MAC ID 610(i) indicating that the CDM channel 608(i) contains information for the subscriber station, the subscriber station demodulates the remaining information, and processes the sub-packet on the F-PDCH in accordance to the gathered information.

[1061] FIG. 7 illustrates a structure of the modified F-SPDCCCH 700. The modified F-SPDCCCH 700 comprises information enabling the two subscriber stations to demodulate the F-PDCH. Therefore, the F-SPDCCCH 700 comprises and MAC IDs for

each subscriber stations **702(1)**, **702(2)**, ARQ IDs **[702(1)] 704(1)**, **704(2)**, sub-packet IDs **706(1)**, **706(2)**, encoder packet sizes **708(1)**, **708(2)**, and number of Walsh channels used **710(1)**, **710(2)**. The structure can be further simplified if the second subscriber station is assumed to use a number of Walsh channels less than or equal to the number of Walsh channels of the second subscriber station. Then the modified F-SPDCCH **700** comprises only one of the blocks **710(1)**, **710(2)**.

**[1065]** **FIG. 8** illustrates a control channel structure the F-SPDCCH **800**, and the CDM control channel **802**. The F-SPDCCH **800** comprises an MAC ID **804**, ARQ ID **806**, sub-packet ID **808**, encoder packet size **810**, and numbers of Walsh channels used **812** for one of the possible two shared channels, and [the] a CDM indicator **814**.

**[1068]** Upon receiving the modified F-SPDCCH **800**, each of the subscriber stations decodes the MAC ID **[802] 804**. If the decoded MAC ID is identical to the subscriber station's MAC ID, the subscriber station decodes the remaining information from the F-SPDCCH **800**, and processes the sub-packet of the F-PDCH in accordance with the information.

**[1069]** The subscriber stations, MAC IDs of which are not identical with the decoded MAC ID, decode the CDM indicator **814**. If the CDM indicator **[X214] 814** indicates that no CDM control channel **802** is transmitted, the subscriber stations cease further processing; otherwise the subscriber stations decode the MAC ID **816**. The subscriber station, a MAC ID of which is identical with the decoded MAC ID acquires the remaining information from the CDM control channel **802**, and processes the sub-packet of the F-PDCH in accordance with the information. The subscriber stations, MAC IDs of which are not identical with the decoded MAC ID cease further processing.

**[1095]** Because all subscriber stations must reliably receive the control channel **1302(1)**, the control channel **1302(1)** is transmitted at power determined by

power requirement of the subscriber station with the worst forward link quality metric. Because each of the control channels 1302(2)-1302(m) [is] are intended for one of the subscriber stations and the base station has an information about the subscriber station forward link quality metric, the base station transmits each of the channels [1308(i)] 1302(2)-1302(m) at the minimum power determined by power requirement of the subscriber station.

[1096] In one embodiment, the control channels 1302(i) are transmitted concurrently, consequently, each of the subscriber stations accumulates data from all the channels [1202(i)] 1302(i), and then post processes the accumulated data. During the post processing, each of the subscriber stations first demodulates the control channel [1202(1)] 1302(1) and decodes a MAC ID of block 1306(1). The subscriber station with MAC ID identical to the MAC ID of block 1306(1) decodes the remaining information, and processes the sub-packet on the F-PDCH in accordance with the gathered information.

[1099] The subscriber stations with MAC ID matching the partial MAC ID of block [1108(1)] 1308(1) demodulate and decode the control channel 1302(m), to acquire the MAC ID of block 1306(m). The subscriber station with MAC ID identical to the MAC ID of block 1306(m) demodulates and decodes the remaining information of the control channel 1302(m), and processes the sub-packet on the F-PDCH in accordance to the gathered information. The subscriber station with MAC ID not matching the MAC ID of block [1316(m)] 1306(m) demodulates the next control channel 1302(2) as described below. Since the subscriber station has already processed the control channel 1302(m), the subscriber station continuing processing and encountering control channel 1302(m) can cease further processing.

[1100] The subscriber stations with MAC ID not matching the partial MAC ID of block 1308(1) demodulate the next control channel 1302(i), i.e., the control channel 1302(2). The subscriber station with MAC ID identical to the MAC ID of block

[1316(2)] 1306(2) decodes the remaining information of the control channel **1302(2)**, and processes the sub-packet on the F-PDCH in accordance to the gathered information. The subscriber stations with MAC ID matching the partial MAC ID of block [1318(2)] 1308(2) follow the processing as outlined with respect to MAC ID in block **1308**. (Thus, the subscriber stations demodulate and decode the control channel [1318(m-1)] 1308(m-1), to acquire the MAC ID of block [1314(m-1)] 1306(m-1)).

1306(2) decodes the remaining information of the control channel 1302(2), and processes the sub-packet on the F-PDCH in accordance to the gathered information. The subscriber stations with MAC ID matching the partial MAC ID of block 1308(2) follow the processing as outlined with respect to MAC ID in block 1308. (Thus, the subscriber stations demodulate and decode the control channel 1308(m-1), to acquire the MAC ID of block 1306(m-1)).